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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/496,111	02/01/2000	Brian L. Allen	BUR990217US1	5743
29154	7590	01/21/2004	EXAMINER	
FREDERICK W. GIBB, III MCGINN & GIBB, PLLC 2568-A RIVA ROAD SUITE 304 ANNAPOLIS, MD 21401			KUMAR, PANKAJ	
		ART UNIT	PAPER NUMBER	
		2631		
DATE MAILED: 01/21/2004				

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/496,111	ALLEN, BRIAN L.
	Examiner	Art Unit
	Pankaj Kumar	2631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 13 November 2003.

2a) This action is **FINAL**. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-4, 6-11, 13-17, 19 and 20 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-4, 6-11, 13-17, 19 and 20 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

13) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) The translation of the foreign language provisional application has been received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) Notice of References Cited (PTO-892) 4) Interview Summary (PTO-413) Paper No(s). ____ .
2) Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) Notice of Informal Patent Application (PTO-152)
3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6) Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 11/13/2003 have been fully considered but they are not persuasive.
2. (Applicant's arguments page 6 paragraph 2) Applicant argues that McNeely does not teach even and odd samples. This is not persuasive since McNeely teaches even sample period and odd sample period in col. 4 last paragraph.
3. (Applicant's arguments page 6 paragraph 2) Applicant argues that McNeely's even and odd samples are truly not even and odd but instead real (R) and imaginary (I). This is not persuasive since as explained above, McNeely teaches even sample period and odd sample period in col. 4 last paragraph. This argument of the applicant is also not persuasive since McNeely teaches "connect data ... to +-R ... during each odd sample period"; "... to +-I ... during each even sample period"; "connect data ... to +-I ... during each odd sample period" ; "... to +-R ... during each even sample period" (McNeely col. 4 lines 60-65). Accordingly, McNeely's association of real to even or odd and imaginary to odd or even is not constant.
4. (Applicant's arguments page 6 paragraph 2) Applicant also argues that both McNeely and Eastty must run at full sample rate when combined while applicant's invention runs at half the rate. The applicant then concludes from this that since they must run at full rate, the references do not teach the claimed invention. This is not persuasive since applicant has not claimed such matter.
5. In response to applicant's arguments against the references individually (applicant's arguments page 7 paragraphs 1, 2, 4 and page 8), one cannot show nonobviousness by attacking

references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

6. In response to applicant's arguments on page 7 third paragraph, the fact that applicant has recognized another advantage(s) which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

7. If applicant is trying to argue long felt need or commercial success:

8. To show long felt need, the applicant must file an affidavit under 37 CFR §1.132 and the affidavit must show:

9. {a} Evidence must establish a problem which has existed over a long period of time and,

10. {b} The evidence must establish that the claimed invention actually solved the problem.; (In re Mixon, 176 USPQ 296).

11. To show commercial success, the applicant must file an affidavit under 37 CFR §1.132 and the affidavit must show:

12. {a} The affidavit must establish a nexus between the invention and the commercial success.

13. b} The showing must be commensurate in scope with the claims (i.e. the invention had resulted in the replacement of competing commercial products); (In re Noznick, 178 USPQ 43).

Response to Amendment

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. Claims 1-4, 6-11, 13-17, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eastty in view of McNeely.

16. These rejections have been copied from the prior action.

17. Regarding claims 1, 8, and 15 Eastty discloses a filter/modulator having an input that is separated into even and odd samples and summation units for processing even and odd samples separately (see generally figure 7; column 5, lines 25-47). The summation units comprise two multipliers directly connected to the input for multiplying the provided samples, and adder for adding the multiplied samples, and delay elements between each summation unit. Looking at figure 7 of the Eastty patent, the first summation unit for even samples consists of elements B1, 61, 71, and C 1. Elements B 1 and C 1 are used for multiplying the samples, element 61 represents the adder, and element 71 is a delay. The summation unit for odd samples consists of elements A1, 61, 71, and Cl, which operate in a manner similar to that of the odd samples. Even though the "summation units" are integrated, as opposed to separate as claimed by the applicant, making items separable does not patently distinguish the claimed invention over the prior art.

18. Eastty does not disclose separate outputs for the even and odd samples, but instead sums them together and outputs an integrated signal. McNeely discloses a filter where odd and even

samples are output separately (see generally column 4, lines 1 - 65). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Eastty to include separate outputs for even and odd samples, as taught by McNeely, for those applications required continued processing of the signals separately.

19. Regarding claims 2 and 9, Eastty further discloses that the delay elements are connected to an adder of each "summation unit" (see generally figure 7; column 5, lines 25-47).

20. Regarding claims 3, 10, and 16, McNeely further discloses that the filter includes an initial delay element and multiplier (see generally figure 4; column 4, lines 1 - 65. It would have been obvious to one of ordinary skill in the art at the time of the invention to include these additional elements initialize the filter.

21. Regarding claims 4, 11, and 17, Eastty further discloses that the multipliers receive the samples directly from the input, before being delayed (see generally figure 7; column 5, lines 2547).

22. Regarding claims 6, 13, and 19 Eastty discloses that each adder receives and odd multiplied sample from one multiplier and an even multiplied sample from the other multiplier (see generally figure 7; column 5, lines 25-47).

23. Regarding claims 7, 14, and 20, Eastty discloses all of the elements as described above. However, as explained in reference to claim 1, the even and odd "summation units" are integrated as opposed to separate. Because of this, each adder receives three samples. However, it would have been obvious to one of ordinary skill in the art that given separate units for even and odd, each adder would only receive two samples.

Conclusion

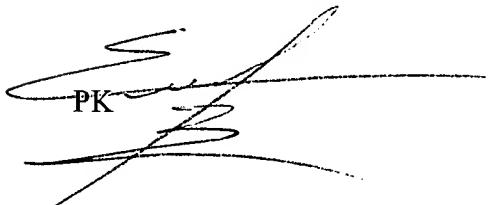
24. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pankaj Kumar whose telephone number is (703) 305-0194. The examiner can normally be reached on Mon, Tues, Wed and Thurs after 8AM to after 6:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad H. Ghayour can be reached on (703) 306-3034. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.



PK

A handwritten signature in black ink, appearing to read "Pankaj Kumar". Below the signature, the initials "PK" are handwritten in a smaller, bold font.